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10/800,771

03/16/2004

Won-Chul Bang

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EXAMINER

PARK, EDWARD

ART UNIT

PAPER NUMBER

2624

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/800,771

Applicant(s)

BANG ET AL.

Examiner

EDWARD PARK

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 23 January 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,3-7 and 9-11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 5,6 and 11 is/are allowed.
- 6) ☒ Claim(s) 1,3,4,7,9 and 10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Continued Examination Under 37 CFR 1.114*

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 1/23/08 has been entered.

### *Claim Rejections.- 35 USC § 103*

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. **Claims 1, 3, 4, 7, 9, and 10** are rejected under 35 U.S.C. 103(a) as being unpatentable over Sato et al (US 5,902,968) in view of Kashi et al (US 5,828,772).

Regarding **claim 1**, Sato discloses a handwriting trajectory recognition system, comprising:

a motion detection unit adapted to output electric signals based on changes in acceleration of a body of the system in space (Sato: figure 10, numerals 102a-c, figure 11,

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numerals 102a-c); and a control unit adapted to detect non-stroke regions intervals where the motions of the system body are temporarily stopped and recover handwritings based on the electric signals (Sato: col. 17, lines 12-22); wherein the control unit determining a range of time where a stroke is present by comparing the acceleration against a threshold (Sato: col. 35, lines 7-36) and wherein the controller determines a non-stroke region by comparing acceleration-related information of a fixed number of samples prior to the range of time against a threshold (see col. 17, lines 12-22, end of a handwriting operation when there are no long any signals from the three acceleration sensors after some predetermined threshold time period). Sato does not disclose calculating the standard deviation.

Kashi teaches calculating the standard deviation (Kashi: col. 3, lines 8-20).

It would have been obvious at the time the invention was made to one of ordinary skill in the art to modify the Sato reference to utilize the standard deviation as suggested by Kashi, to allow “larger total error [to] be tolerated if the [acceleration values] exhibit a high degree of scatter, than if they show a low degree of scatter” (Kashi: col. 3, lines 12-20).

Regarding **claim 3**, Sato discloses all elements as mentioned above in claim 1. Sato further teaches determining a start of a stroke by comparing a fixed number of samples of acceleration starting prior to the start up to a fixed time subsequent to the start against a threshold (Sato: col. 7, lines 28-51). Sato does not teach calculating the standard deviation.

Kashi teaches calculating the standard deviation (Kashi: col. 3, lines 8-20).

It would have been obvious at the time the invention was made to one of ordinary skill in the art to modify the Sato reference to utilize the standard deviation as suggested by Kashi, to

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allow “larger total error [to] be tolerated if the [acceleration values] exhibit a high degree of scatter, than if they show a low degree of scatter” (Kashi: col. 3, lines 12-20).

Regarding **claim 4**, Sato discloses all elements as mentioned above in claim 1. Sato further teaches determining an end of the stroke by comparing a fixed number of samples up to the end of the stroke against the threshold (Sato: col. 7, lines 28-51). Sato does not teach calculating the standard deviation.

Kashi teaches calculating the standard deviation (Kashi: col. 3, lines 8-20).

It would have been obvious at the time the invention was made to one of ordinary skill in the art to modify the Sato reference to utilize the standard deviation as suggested by Kashi, to allow “larger total error [to] be tolerated if the [acceleration values] exhibit a high degree of scatter, than if they show a low degree of scatter” (Kashi: col. 3, lines 12-20).

Regarding **claim 7**, Sato teaches a handwriting trajectory recognition method comprising: detecting changes in acceleration of a body of the system in space (Sato: figure 10, numerals 102a-c, figure 11, numerals 102a-c); deciding non-stroke regions if there exist intervals where motions of the system body are temporarily stopped (Sato: col. 17, lines 12-22); and recovering handwritings by the system body based on decision results (Sato: col. 29, numeral 243); and where a range of time where a stroke is present is detected by comparing the acceleration against a threshold (Sato: col. 35, lines 7-36) where the controller determines a non-stroke region by comparing acceleration-related information of a fixed number of samples prior to the range of time against a threshold (see col. 17, lines 12-22, end of a handwriting operation when there are no long any signals from the three acceleration sensors after some predetermined threshold time period).

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Sato does not teach calculating the standard deviation.

Kashi teaches calculating the standard deviation (Kashi: col. 3, lines 8-20).

It would have been obvious at the time the invention was made to one of ordinary skill in the art to modify the Sato reference to utilize the standard deviation as suggested by Kashi, to allow “larger total error [to] be tolerated if the [acceleration values] exhibit a high degree of scatter, than if they show a low degree of scatter” (Kashi: col. 3, lines 12-20).

Regarding **claim 9**, Sato discloses all elements as mentioned above in claim 7. Sato further teaches a start of a stroke is determined by comparing a fixed number of samples of acceleration starting prior to the start up to a fixed time subsequent to the start against a threshold (Sato: col. 7, lines 28-51). Sato does not teach calculating the standard deviation.

Kashi teaches calculating the standard deviation (Kashi: col. 3, lines 8-20).

It would have been obvious at the time the invention was made to one of ordinary skill in the art to modify the Sato reference to utilize the standard deviation as suggested by Kashi, to allow “larger total error [to] be tolerated if the [acceleration values] exhibit a high degree of scatter, than if they show a low degree of scatter” (Kashi: col. 3, lines 12-20).

Regarding **claim 10**, Sato discloses all elements as mentioned above in claim 7. Sato further teaches determining by comparing a fixed number of samples up to the end of the stroke against the threshold (Sato: col. 7, lines 28-51). Sato does not teach calculating the standard deviation.

Kashi teaches calculating the standard deviation (Kashi: col. 3, lines 8-20).

It would have been obvious at the time the invention was made to one of ordinary skill in the art to modify the Sato reference to utilize the standard deviation as suggested by Kashi, to

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allow “larger total error [to] be tolerated if the [acceleration values] exhibit a high degree of scatter, than if they show a low degree of scatter” (Kashi: col. 3, lines 12-20).

*Allowable Subject Matter*

4. **Claims 5, 6, 11** are allowable. Applicant’s amendment of the respective claims that are currently rewritten in independent form including all of the limitations of the base claim and any intervening claims deem the claims to be allowable.

*Response to Arguments*

5. Applicant's arguments filed on 1/23/08 with respect to **claims 1 and 7** have been fully considered but they are not persuasive. Applicant argues that the combined teachings of Sato and Kashi do not teach the start and end of the stroke that are determined using a fixed number of samples prior to the range of time. This argument is not considered persuasive since the Sato and Kashi combination meets the limitations of claim 1 and can be seen above. Furthermore, applicant argues that a skilled artisan would not look to Sato for a teaching comparing the acceleration against a threshold and combine with a teaching on standard deviation. Applicant argues that it would not be predictable to substitute acceleration with the use of the standard deviation of the acceleration since there are an infinite number of mathematical operations and statistical measures for a skilled artisan to choose from to compare against a threshold. This argument is not considered persuasive since applicant’s claim language brings in the use of standard deviation. The reason, the examiner utilizes the concept of standard deviation is due to the applicant's claim limitation that requires the mathematical operation. In response to

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applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, the motivation to bring in the concept of standard deviation can be seen above in the rejection of claims 1 and 7.

Regarding **claims 3, 4, 9, 10**, applicant argues that the claims are allowable due to their dependency of claims 1 and 7. This argument is not considered persuasive since the rejections of claims 1 and 7 stand and can be seen above.

### ***Conclusion***

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to EDWARD PARK whose telephone number is (571)270-1576. The examiner can normally be reached on M-F 10:30 - 20:00, (EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vikram Bali can be reached on (571) 272-7415. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.




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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Edward Park  
Examiner  
Art Unit 2624

/Edward Park/



VIKKRAM BALI  
PRIMARY EXAMINER